



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/783,960

02/20/2004

Thomas A. Petersen

1778.3290002 (0187.02US)

4828

56074

7590

11/13/2008

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

PORTKA, GARY J

ART UNIT

PAPER NUMBER

2188

MAIL DATE

DELIVERY MODE

11/13/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/783,960	<b>Applicant(s)</b> PETERSEN ET AL.	
	<b>Examiner</b> Gary J. Portka	<b>Art Unit</b> 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-19, 21-24, 26-29, 43-58, 61-64, 70-72, 74-77, 81-89, 92 and 93 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19, 21-24, 26-29 and 61-64 is/are allowed.
- 6) ☒ Claim(s) 43-58, 70-72, 74-77, 81-89, 92 and 93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 18, 2008 has been entered.

2. Claims 11-13, 16-18, 27, 29, 43, 53, 61-64, 70-72, 76, 81, 83, 89 and 92 have been amended, and claims 20, 25, 59-60, 78-80, and 90-91 have been canceled by Applicant. Claims 11-19, 21-24, 26-29, 43-58, 61-64, 70-72, 74-77, 81-89, and 92-93 are pending.

### ***Response to Arguments***

3. Applicant's arguments filed August 18, 2008 have been considered and are partly but not fully persuasive. Applicants have argued that Hass does not disclose data coherence being latency independent. It is first questioned whether all claims are recited in a manner which is clear and disclosed (see 35 USC 112 rejections below). Additionally, claim 53 only recites that the global order compensates for difference of data latencies, and is not believed to distinguish over the reference (see art rejection below).

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Art Unit: 2188

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 43-52 and 70-71 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 43-52 and 70-71 recite a multiphase protocol, and three phases of the protocol. Although the claims further recite conditions of elements that exist during the phases, the claims are directed to the protocol and the phases themselves, such limitations not being directed to any of the four statutory classes of invention.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 43-52, 70-72, 74-77, 81-89, and 92-93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 43 recites 1) a global order compensating for differing latencies, that 2) the global order results in data coherence, and that 3) the data coherence is latency independent. Claim 72 very similarly recites 1) global order compensating for differences in latencies, that 2) snoops are executed according to the global order, and 3) data coherence is maintained irrespective of latency. It is unclear how if the global order compensates for latency, and it results in the coherence (for example by controlling snoops), that the coherence may be said to be latency independent. As recited, it would appear that that since the order compensates for the latency and results in the coherence, that the coherence at

Art Unit: 2188

least depends upon how the ordering was done to compensate for the latency. Claims 44-52, 70-71, 74-77, 81-89, and 92-93 incorporate the limitations of their independent claims. Although no other independent claims appear to recite all of items 1) to 3) above, depending upon the response to this, the meaning of coherency "independent of" " or "irrespective of" latency might be called into question in the remaining claims.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 53-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Hass et al., US 6,892,282 B2, herein "Hass".

10. As to claims 53-58, Hass discloses a method for latency independent coherence among agents that share a memory, the agents having different data latencies (since they are not disclosed as equal, different parts with different elements would inherently have different latencies to the extent claimed), establishing request, snoop, and response phases, receiving requests at a global arbiter, assign a global order thereto, execute snoops therefor according to the global order, and respond thereto according to the global order. See Figs. 1-3 and 6, col. 4 line 49 to col. 5 line 67, col. 11 line 40 to col. 12 line 40, col. 17 lines 42-61, and col. 18 lines 34-46. The second tier cache

Art Unit: 2188

functions of Hass may be considered a part of the functions of the claimed global arbiter (along with those of the global snoop controller of Hass). The second tier cache receives requests and orders those requests via the input queues shown in Fig. 6. Since snoops for those requests are then placed on the snoop ring by the global snoop controller, those snoops remain in the order established for the requests, and thus the responses are also in the same order. This also requires that since the requests are done in order around the ring, individual latencies are transparent to the final completion of a loop of the ring, and thus compensated for to the extent recited.

***Allowable Subject Matter***

11. Claims 11-19, 21-24, 26-29 and 61-64 are allowed.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J. Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2188

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gary J Portka/

Primary Examiner

Art Unit 2188

November 9, 2008